What is claimed is:

1.   A method for use in detecting deception of a person, the method comprising:

5   providing thermal image data of at least a region of a face of a person;

       transforming the thermal image data to blood flow rate data, wherein the blood flow rate data comprises a slope representative of change of blood flow rate over time;

10   providing a slope threshold representative of a demarcation between change of blood flow rate over time for a deceptive person and change of blood flow rate over time for a non-deceptive person; and

       comparing the slope representative of change of blood flow rate over time to the slope threshold to determine whether the person is deceptive or
15   non-deceptive.

2.   The method of claim 1, wherein providing a slope threshold comprises generating a slope threshold based on at least answer slopes representative of the change of blood flow rate over time for a plurality of
20   subjects during at least a portion of an answer period of time in which the plurality of subjects answer questions posed thereto.

3.   The method of claim 1, wherein providing a slope threshold comprises generating a slope threshold based on answer slopes
25   representative of the change of blood flow rate over time for a plurality of subjects during at least a portion of an answer period of time in which the plurality of subjects answer questions posed thereto during a question period of time and also based on question slopes representative of the

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change of blood flow rate over time for a plurality of subjects during at least a portion of the question period of time.

4.   The method of claim 3, wherein providing a slope threshold
5   comprises generating a slope threshold based on a product of corresponding question and answer slopes.

5.   The method of claim 1, wherein providing the thermal image data comprises providing thermal image data of at least a region proximate an
10   eye of the person.

6.   The method of claim 1, wherein providing thermal image data comprises:
        asking the person a question to elicit a response therefrom;
15   focusing a thermal infrared image device operable to provide thermal image data on at least the region of the face of the person; and
        capturing thermal image data during at least a period of time during the response from the person.

20   7.   The method of claim 6, wherein determining whether the person is deceptive or non-deceptive comprises determining whether the person is being deceptive or non-deceptive with respect to the response to the question.

25   8.   The method of claim 1, wherein providing thermal image data comprises:
        focusing a thermal infrared image device operable to provide thermal image data on at least the region of the face of the person;

capturing frames of thermal image data during at least a period of time; and

tracking movement of at least the region of the face of the person.

5   9.   A system for use in detecting deception of a person, the system comprising:

a thermal infrared image device operable to provide thermal image data of at least a region of a face of a person; and

a computing apparatus operable to:

10   transform the thermal image data to blood flow rate data, wherein the blood flow rate data comprises a slope representative of change of blood flow rate over time;

provide a slope threshold representative of a demarcation between change of blood flow rate over time for a deceptive person

15   and change of blood flow rate over time for a non-deceptive person; and

compare the slope representative of change of blood flow rate over time for a person to the slope threshold to determine the person as deceptive or non-deceptive.

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10.   The system of claim 9, wherein the slope threshold is provided based on at least answer slopes representative of the change of blood flow rate over time for a plurality of subjects during at least a portion of an answer period of time in which the plurality of subjects answer questions posed

25   thereto.

11.   The system of claim 9, wherein the slope threshold is provided based on answer slopes representative of the change of blood flow rate over time for a plurality of subjects during at least a portion of an answer period of

time in which the plurality of subjects answer questions posed thereto during a question period of time and also on question slopes representative of the change of blood flow rate over time for a plurality of subjects during at least a portion of the question period of time.

12. The system of claim 11, wherein the slope threshold is based on a product of corresponding question and answer slopes.

13. The system of claim 9, wherein the thermal infrared image device is operable to provide thermal image data of at least a region proximate an eye of the person.

14. The system of claim 9, wherein the thermal infrared image device is operable to capture thermal image data during at least a period of time during at least an elicited response from the person.

15. The system of claim 14, wherein the computing apparatus is operable to determine whether the person is deceptive or non-deceptive based on the blood flow rate data corresponding to the thermal image data captured during at least the elicited response.

16. The system of claim 9, wherein the thermal infrared image device is operable to capture frames of thermal image data during at least a period of time, and further wherein the computing apparatus is further operable to track movement of at least the region of the face of the person during the period of time.

17. The system of claim 9, wherein the system further comprises means for providing measurement of one or more physiological parameters

different than blood flow rate data obtained using thermal image data, and further wherein the computing apparatus is operable to determine whether the person is deceptive or non-deceptive based on the blood flow rate data obtained using thermal image data and the one or more physiological

5   parameters.

18.   A polygraph method for use in determining whether a person is being deceptive or non-deceptive with respect to a response elicited from the person, the method comprising:

10   capturing thermal image data from at least one region of the face of the person during at least the elicited response;

transforming the thermal image data to blood flow rate data, wherein the blood flow rate data comprises a slope representative of change of blood flow rate over time in the at least one region of the face;

15   providing a slope threshold representative of a demarcation between change of blood flow rate over time for a deceptive person and change of blood flow rate over time for a non-deceptive person; and

comparing the slope representative of change of blood flow rate over time for the person to the slope threshold to classify the person's elicited

20   response as deceptive or non-deceptive.

19.   The method of claim 18, wherein providing a slope threshold comprises generating a slope threshold based on at least answer slopes representative of the change of blood flow rate over time for a plurality of

25   subjects during at least a portion of an answer period of time in which the plurality of subjects answer questions posed thereto.

20.   The method of claim 18, wherein providing a slope threshold comprises generating a slope threshold based on answer slopes

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representative of the change of blood flow rate over time for a plurality of subjects during at least a portion of an answer period of time in which the plurality of subjects answer questions posed thereto during a question period of time and also based on question slopes representative of the change of blood flow rate over time for a plurality of subjects during at least a portion of the question period of time.

21. The method of claim 22, wherein providing a slope threshold comprises generating a slope threshold based on a product of corresponding question and answer slopes.

22. The method of claim 18, wherein capturing the thermal image data comprises capturing thermal image data of at least a region proximate an eye of the person.

23. The method of claim 18, wherein the method further comprises providing measurement of one or more physiological parameters different than blood flow rate data obtained using thermal image data, and further wherein classifying the person elicited response as deceptive or non-deceptive comprises determining whether the person is deceptive or non-deceptive based on the blood flow rate data obtained using thermal image data and the one or more physiological parameters.

24. A method for use in determining a physiological state of a person, the method comprising:

providing thermal image data of at least a region of a face of a person;

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transforming the thermal image data to blood flow rate data, wherein the blood flow rate data comprises a slope representative of change of blood flow rate over time;

providing a slope threshold representative of a demarcation between
5   change of blood flow rate over time for a first physiological state of a person and change of blood flow rate over time for a second physiological state of a person; and

comparing the slope representative of change of blood flow rate over time to the slope threshold to determine whether the person is in the first or
10   second physiological state.

25.   The method of claim 24, wherein the first physiological state of a person and the second physiological state of a person comprise a deceptive state and a non-deceptive state, respectively.
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26.   The method of claim 24, wherein providing the thermal image data comprises providing thermal image data of at least a region proximate an eye of the person.

20   27.   The method of claim 24, wherein providing thermal image data comprises:

focusing a thermal infrared image device operable to provide thermal image data on at least the region of the face of the person;

capturing frames of thermal image data during at least a period of
25   time; and

tracking movement of at least the region of the face of the person.

28.   A system for use in determining a physiological state of a person, the system comprising:

a thermal infrared image device operable to provide thermal image data of at least a region of a face of a person; and

a computing apparatus operable to:

transform the thermal image data to blood flow rate data, wherein the blood flow rate data comprises a slope representative of change of blood flow rate over time;

provide a slope threshold representative of a demarcation between change of blood flow rate over time for a first physiological state of a person and change of blood flow rate over time for a second physiological state of a person; and

compare the slope representative of change of blood flow rate over time to the slope threshold to determine whether the person is in the first or second physiological state.

29. The system of claim 28, wherein the first physiological state of a person and the second physiological state of a person comprise a deceptive state and a non-deceptive state, respectively.

30. The system of claim 28, wherein the thermal infrared image device is operable to provide thermal image data of at least a region proximate an eye of the person.

31. The system of claim 28, wherein the thermal infrared image device is operable to capture frames of thermal image data during at least a period of time, and further wherein the computing apparatus is further operable to track movement of at least the region of the face of the person during the period of time.